



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,733	04/16/2004	Masataka Shinoda	075834.00485	1364

33448 7590 03/09/2006

ROBERT J. DEPKE  
LEWIS T. STEADMAN  
Trexler, Bushnell, Glanlorgi, Blackstone & Marr  
105 West Adams Street, Suite 3600  
Chicago, IL 60603-6299

EXAMINER

GOMA, TAWFIK A

ART UNIT PAPER NUMBER

2653

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/826,733	<b>Applicant(s)</b> SHINODA, MASATAKA	
	<b>Examiner</b> Tawfik Goma	<b>Art Unit</b> 2653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Priority*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knight et al (US 6243350) in view of Okubo (US 2003/0118936).

Regarding claim 1, Knight discloses an optical recording medium recorded and reproduced with irradiation of light thereon, said irradiation of light being made by an objective lens of which numerical aperture is larger than 1 to record and reproduce recorded pits (col. 9 lines 49-63), comprising at least a silicon layer and a silicon oxide layer being formed from the light irradiation side, in that order (fig. 31, col. 29 lines 44-67 thru col. 30 lines 1-8 and col. 34 lines 47-50). Knight discloses that a dielectric layer (3004) which can be silicon dioxide per another embodiment is formed underneath a recording layer. Although Knight discloses that the any write-once, or phase change material can be used as the recording layer, he fails to disclose a silicon recording layer. In the same field of endeavor, Okubo discloses a recording medium with a silicon recording layer (par. 83). It would have been obvious to one of ordinary skill in

Art Unit: 2653

the art to use a silicon recording layer as taught by Okubo in the recording medium taught by Knight. The rationale is as follows: One of ordinary skill in the art would have been motivated to use a silicon recording layer as a suitable write-once recording material since Knight (col. 29 lines 44-67) suggests using any suitable write-once recording material and Okubo teaches that silicon is a suitable write-once material.

Regarding claim 2, Knight in view of Okubo disclose everything claimed as applied above. Further in regard to claim 2, it is known that silicon is oxidized when irradiated by a recording laser, and pits are formed by changing silicon to silicon-oxide by the recording laser.

Regarding claims 3 and 4, Knight further discloses wherein said silicon layer has formed thereon a protective layer of which refractive index is larger than a numerical aperture of said objective lens (3001, fig. 31, col. 46 lines 47-49 and col. 34 lines 45-47).

Regarding claim 5, claim 5 is rejected for the same reasons as claims 1 and 2 above.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Novotny et al (US 6483801) discloses a recording medium with a protective layer that has an index of refraction greater than the numerical aperture of the objective lens.

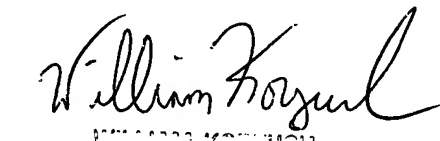
Art Unit: 2653

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tawfik Goma whose telephone number is (571) 272-4206. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
T. Goma  
3/3/2006

  
William Korzuch  
Supervisor  
Art Unit 2653